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position signal. Angle data PI in the range of 0 to 360° obtained by performing polar conversion with respect to a periodic signal is input to a low pass filter 7. The low pass filter 7 has: a VCO 36 for outputting smoothed angle data PF; a phase comparator 31 for obtaining a phase error PE between the angle data PI and the smoothed angle data PF; a first amplifier 32 for amplifying the phase error PE; a second amplifier 33 for further amplifying the phase error PE amplified by the first amplifier 32; an integrator 34 for integrating the phase error PE amplified by the second amplifier 33 to obtain a velocity error VEL; and an adder 35 for adding the phase error PE amplified by the first amplifier 32 and the velocity error VEL to determine a control voltage VS. The VCO 36 controls the frequency of the smoothed angle data PF so that the phase error is zero based on the control voltage FS, to remove a high frequency component in the input angle data PI.--

IN THE CLAIMS

Please amend claims 1-17 by rewriting same to read as follows.

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--1. (Amended) A position detection apparatus comprising:
a recording medium on which a position signal having a periodic signal is recorded;
a detection section having a first detection head which